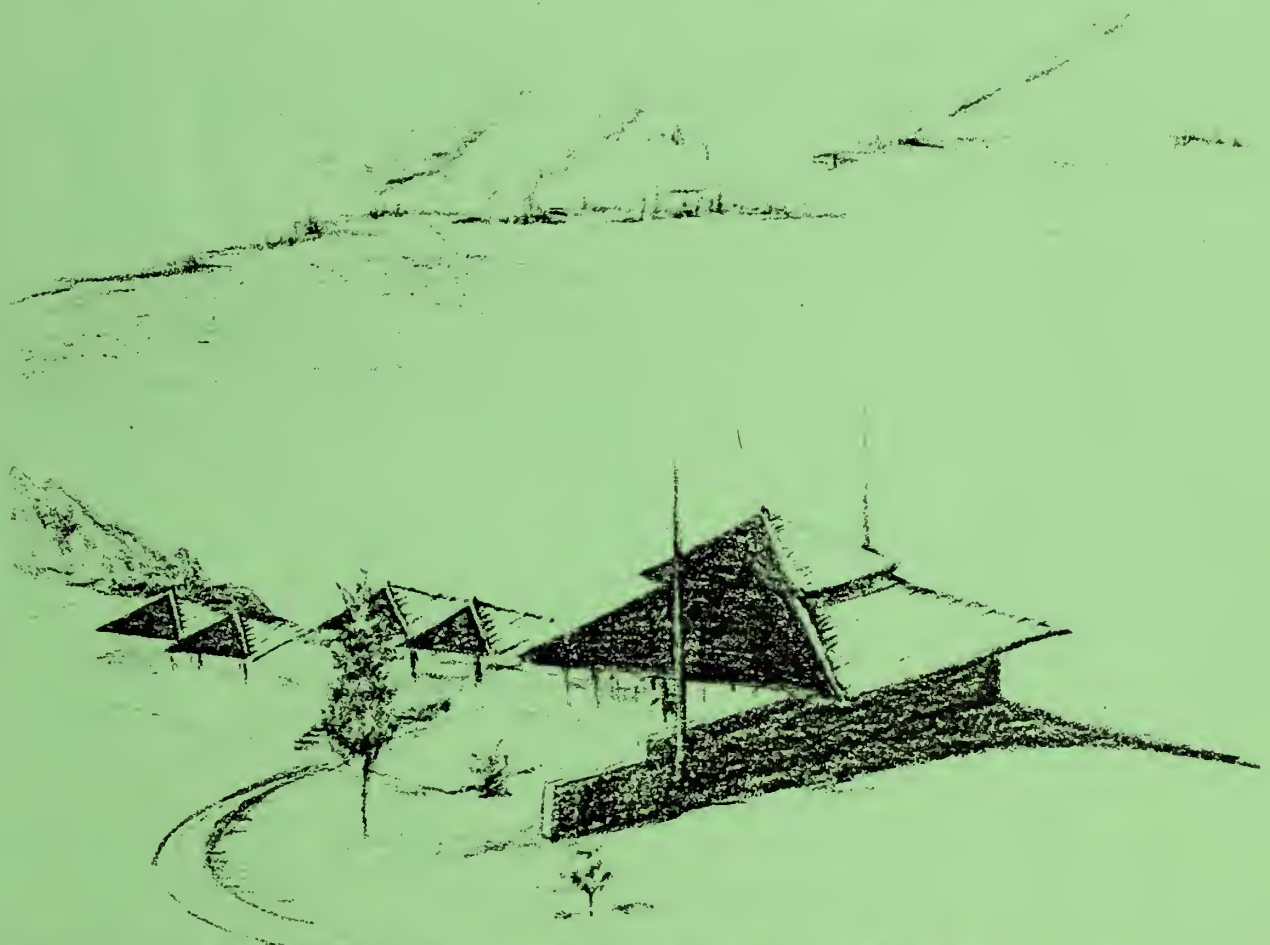
WRD Resource Room WHIS

NATURAL RESOURCES MANAGEMENT PROGRAM

An Addendum to the Natural Resources Management Plan

MARCH 1982 REVISION



WHISKEYTOWN UNIT
Whiskeytown-Shasta-Trinity

National Recreation Area

CALIFORNIA

NATURAL RESOURCES MANAGEMENT PROGRAM

MARCH 1982 REVISION

AN ADDENDUM TO THE

NATURAL RESOURCES MANAGEMENT PLAN

FOR THE

WHISKEYTOWN UNIT

OF THE

WHISKEYTOWN-SHASTA-TRINITY NATIONAL RECREATION AREA

CALIFORNIA

Prepared By

The Whiskeytown Unit

of the

Whiskeytown-Shasta-Trinity National Recreation Area
National Park Service
Department of the Interior

NATURAL RESOURCES MANAGEMENT PROGRAM

Abstract

This Management Program is a reference document for use in carrying out key identified natural resources projects in the Whiskeytown Unit of the Whiskeytown-Shasta-Trinity National Recreation Area. While the Natural Resources Management Plan (NRMP) for Whiskeytown proposes a long-term action program, this Management Program deals with the next five years only. The Program proposes projects for Fiscal Years 1982 through 1986. As often as needed--generally annually, the Management Program will be revised and updated for a new five-year period as work is completed and new projects are proposed.

The Management Program presented on the subsequent pages of this document consists of:

1. Natural Resources Project Statements. These serve as "blueprints" for proposed actions.
2. Natural Resources Projects Programming Sheet listing proposed projects and priority, requested funds, and time schedule for each during a five-year period.
3. Status List of Natural Resources Projects. This list summarizes completed and currently active management and research projects at the Recreation Area.
4. Project Statements to be Developed.

A Service-team from Whiskeytown and Western Regional Office completed a Natural Resources Management Plan and Environmental Assessment for

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Whiskeytown in October, 1975. That Plan included an addendum, the Management Plan. This 1982 edition represents the first revision of the original Natural Resources Management Program. Holders of the Resources Management Plan should replace the original Management Program with this 1982 version. This revision proposed that additional projects be carried out at Whiskeytown. These new proposals are outlined in the following Project Statements:

1. Limnology of Whiskeytown Lake, Emphasizing Fishery Biology, WHIS-N-3.
2. Monitor and Assess Air Quality at Developed Areas, WHIS-RM-8.
3. Monitor and Assess Water Quality, Park Water Resource Management Plan, WHIS-W-2.
4. Ecological Study of Vertebrate, WHIS-N-5.
5. Fire Management and Prescribed Burning Research, WHIS-RM-6.
6. Endangered Species Management, WHIS-RM-7.

Also, this revision includes the following projects originally proposed in October 1975, but not yet carried out:

1. Determine Biological and Sociological Carrying Capacity in the Whiskeytown National Recreation Area, Rev. 3/81, WHIS-N-2.
2. Determine Methods to Alter Vegetation Cover, WHIS-N-1.
3. Bear-Proof Cans and Garbage Collection, WHIS-RM-5.
4. Evaluation of Sensitive Plant Species and Their Critical Habitat, WHIS-N-4.
5. Spring Development: Fire Control/Wildlife Habitat, WHIS-W-1.

On-going resources management projects requiring updating because of budget constraints and program curtailment:

1. Poison Oak Control, WHIS-RM-1.
2. Exotic Plant Control, WHIS-RM-2.
3. Yellowjacket Hornet Control, WHIS-RM-4.
4. Soil Stabilization, WHIS-RM-3.

Resource Management Project Statements to be deveploped:

1. Wildlife Inventory and Management.
2. Stream Ecology and Management, Basic Inventory of Aquatic Resource.
3. Evaluation and Management of Minerals Resource.
4. Backcountry Trail Management Plan.
5. Area Boundary Line Maintenance.
6. Biological Control of Rodents Populations.
7. Threadfin Shad Ecology--Fisheries Management.

A fire management program and prescribed burning research are proposed here as new activities not discussed in the original Natural Resources Management Plan in 1975. The required environmental analysis will be conducted before starting these activities, also an environmental analysis will proceed any soil stabilization work that may have significant impacts.

It was determined through public and National Park Service review of the 1975 NRMP, Environmental Assessment and Management Program that proposed actions lacked potential to cause significant impacts on the human environment. Except for the proposals in the above paragraph, new projects proposed herein were either analyzed in the previous environmental document or are included in the proposed National Park Service list of categorical exclusions (Federal Register May 28, 1980). Thus, no further NEPA documentation is required.

All other applicable laws and policies (Endangered Species Act, National Historic Preservation Act, etc.) will be followed in carrying out these projects.

Ray C Fourt
Superintendent, Whiskeytown Unit

March 29, 1982
Date

Howard L. Chapman
Regional Director, Western Region

April 8, 1982
Date

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NATURAL RESOURCES PROJECT STATEMENT

1. PARK AND REGION: Whiskeytown Unit of the Whiskeytown-Shasta-Trinity National Recreation Area, Western Region Office.

2. PROJECT NAME AND NUMBER: Poison Oak Control, WHIS-RM-1 (Rev. 10/81)

3. STATEMENT OF PROBLEM: Poison oak is extremely common at the lower elevations. This plant inhibits a safe recreation experience in those areas designed for a high concentration of public use such as picnic and camping areas.

4. WHAT HAS BEEN DONE: Individual plants in concentrated use areas have been sprayed with an approved herbicide (Roundup) each spring.

5. DESCRIPTION OF WORK TO BE UNDERTAKEN: Program will continue as indicated. Unusually large plants will be cut, stumps treated, and if necessary, reproduction shoots will be sprayed to minimize the application of the herbicide.

6. LENGTH OF TIME NEEDED: Annual Program.

7. WHAT WILL HAPPEN IF NOT UNDERTAKEN: If nothing is done, high visitor exposure will take place, reducing the visitor's enjoyment and reducing the site's use capacity.

8. WHAT ARE THE ALTERNATIVES:
   a. Do nothing
   b. Removal of plants by hand alone
   c. Closing public use areas and relocating

9. PERSONNEL: One Park Technician, GS-026-5, and material.

10. ADMINISTRATION AND LOGISTICS: Project will be directly supervised by the Supervisory Park Ranger in the Branch of Resources Management and Land Use. Two applications will be made after leaves develop early in spring.

	Year in Program Sequence				
Funding	1st	2nd	3rd	4th	5th
Personal Services	1,000	1,000	1,000	1,000	1,000
Equipment, Depreciation and Supplies	500	500	500	500	500
Grand Total	1,500	1,500	1,500	1,500	1,500
Funds Available in Park Base	00	00	00	00	00
Funds Requested from Regional Office	1,500	1,500	1,500	1,500	1,500

On Form	Date Submitted
10-237	
10-238	
10-250	

11. REFERENCES AND CONTACTS:

a. Shasta County Agricultural Department

b. California Department of Agriculture

12. DATE OF SUBMISSION: November 14, 1974 (Rev. 10/28/81)

NATURAL RESOURCES PROJECT STATEMENT

1. PARK AND REGION: Whiskeytown Unit of the Whiskeytown-Shasta-Trinity National Recreation Area, Western Region Office.

2. PROJECT NAME AND NUMBER: Exotic Plant Control, WHIS-RM-2

3. STATEMENT OF PROBLEM: Tree-of-heaven (Ailanthus altissima) and Himalayan blackberry (Rubus procerus) have encroached heavily on the Tower House Historic District pasture, gardens and physical features.

4. WHAT HAS BEEN DONE: A start was made on this project in the spring of 1974. This consisted of removing some trees by cutting and removing the thorny blackberry with a specially designed bucket on the front-end loader, which extracts the bush without exposure of thorns to employees. This work was accomplished mostly along fence lines and in one portion of the "north" pasture.

5. DESCRIPTION OF WORK TO BE UNDERTAKEN: The plants shall be removed from all invaded sites in the restoration area. The plants shall be allowed to reproduce where restoration is not affected, and where they will not significantly compete with or exclude other desired vegetation.

6. LENGTH OF TIME NEEDED: This work can be accomplished in one year. Annual maintenance of the vegetative scene would be needed to avoid reinvasion of the restored sites.

7. WHAT WILL HAPPEN IF NOT UNDERTAKEN: If nothing is done:

   a. The historic scene in the Tower House area cannot be restored
   b. Historical and archeological evidence would be difficult to locate
   c. Recreational and interpretive values would be reduced here and in other areas

8. WHAT ARE THE ALTERNATIVES:

a. Do nothing

b. Complete removal of the exotic plants

9. PERSONNEL: One Equipment Operator, One Foreman, Five Laborers

10. ADMINISTRATION AND LOGISTICS: Project will be directly supervised by the Supervisory Park Ranger in the Branch of Resources Management and Land Use.

	Year in Program Sequence				
Funding	1st	2nd	3rd	4th	5th
Personal Services	3,000	500	500	500	500
Equipment	1,000	00	00	00	00
Grand Total	4,000	500	500	500	500
Funds Available in Park Base	00	500	500	500	500
Funds Requested from Regional Office	4,000	00	00	00	00

On Form	Date Submitted
10-237	
10-238 X	Pkg. 123 (1/72)
10-250	

11. REFERENCES AND CONTACTS:

a. Public Law 80-336

b. Administrative Policies for Recreation and Historic Areas of the National Park Service

c. Historic Preservation Team, WRO

12. DATE OF SUBMISSION: November 14, 1981 (Rev. 10/28/81)

NATURAL RESOURCES PROJECT STATEMENT

1. PARK AND REGION: Whiskeytown Unit of the Whiskeytown-Shasta-Trinity National Recreation Area, Western Region Office.

2. PROJECT NAME AND NUMBER: Soil Stabilization, WHIS-RM-3 (Rev. 10/81)

3. STATEMENT OF PROBLEM: Watershed problems have resulted from soil and vegetative disturbances caused by logging, road construction and mining. Of particular concerns are the drainages with highly erosive soils affecting Whiskeytown Lake. Soil erosion over the majority of the area's watershed during the rainy season is a major concern because of the deleterious influence on many of the park resources. Erosion is impairing public access to the backcountry, increasing costs of road maintenance, unloading sediments in the confluence of streams and the lake which reduces fish spawning areas; and suspended particles of soil also reduce the aesthetic value and fishing success in these soils. This condition exists because surface erosion from logging operations with no sensitivity to the detrimental impacts, was accelerated on private lands prior to their acquisition by the National Park Service.

4. WHAT HAS BEEN DONE: Summary of planting history:

Year	Trees and Seedlings Planted (In Thousands)	Location
1971	20 Ponderosa and Jeffery Pine	Kennedy Shores & Areas Near Lake
1972	5 Knobcone-Monterey Pine (Hybrid)	Areas Near Lake
1974	30 Ponderosa Pine	Section 18, T32N, R7W, MDM
	20 Knobcone-Monterey Pine (Hybrid)	Areas of Lower Elevations

Year	Trees & Seedlings Planted (in thousands)	Location
1975	15 Ponderosa (1-0) 5 Knobcone X (1-0)	Section 16, T32N, R7W, MDM
1976	20 Ponderosa (1-0) 5 Knobcone X (1-0)	Sections 16 & 20, T32N, R7W, MDM
1977	10 Ponderosa (1-0) 2 Sugar Pine (1-0) 2 Douglas Fir (1-0)	Section 20, T32N, R7W, MDM
1978	19 Ponderosa (1-0)	Replant Sections 20 & 18, T32N, R7W, MDM
1979	20 Ponderosa (1-0)	Replant Sections 16 & 20, T32N, R7W, MDM
1980	None	
1981	None	

In order to obtain an overall assessment of the problem and also to obtain recommendations for control, an agreement was reached with the U.S. Soil Conservation Service in 1972 to complete a soil management guide for Whiskeytown National Recreation Area. The project involved a transfer of funds from National Park Service to Soil Conservation Service in the amount of $5,000. The guide was completed and delivered in 1973.

In March of 1973, a Resources Management crew was employed to begin work on the soil stabilization program. Following interim guidelines of the Soil Conservation Service, work was begun on one of the most devastated areas (Section 18, T32N, R7W, MDM). Work during the winter months consisted of mechanical efforts (check dams, brush rip-rap, diversion ditches) to check erosion. In the Fall of 1973, the mechanically treated areas were planted with annual rye-grass.

This is an on-going project with minor accomplishments being achieved

annually by Resources Management personnel in areas defined by the Soil Management Guide. The Youth Conservation Corps (YCC) spends 4 to 5 weeks each year on erosion control and site preparation for seeding. Supervision is accomplished by Resources Management.

To achieve maximum effectiveness in the soil stabilization program, the project will require additional funding. The park base will require an increase of $22,000 for the first year and $25,000 in subsequent fiscal years.

The National Park Service, in cooperation with the Soil Conservation Service, established five test plots in the above-mentioned section to test various mixtures of grass seed, and three test plots for shrubs were established. One plot was within the section mentioned and the remaining two plots were within the same drainage.

5. DESCRIPTION OF WORK TO BE UNDERTAKEN: In order to reduce the amount of erosion taking place, the present program will be continued and expanded. Areas already recognized (Soil Management Guide, SCS) as being of high value will receive priority treatment with others receiving treatment as time and funds allow. Preliminary work will include mechanical devices to slow down soil movement or hold the soil in place. Efforts will be made to divert water onto vegetated areas. Planting of rapid growth annuals will be used to provide a soil cover at the earliest possible date. Brush or tree seedlings will then be planted to provide a more permanent and more effective ground cover. Test plots already established will be monitored and species showing the best adaptability to the sites will be used for seeding and/or planting. Contacts will be maintained

with the Soil Conservation Service, Bureau of Land Management and U. S. Forest Service. Mutually agreeable test procedures will be utilized to study success or failure of each above mentioned methods.

6. LENGTH OF TIME NEEDED: This on-going project will take five years to complete the first stage. The second stage will continue the project into areas of secondary importance for the next five years.

7. WHAT WOULD HAPPEN IF NOT UNDERTAKEN: Forest soils will continue to erode. Gullies and ditches will continue to deepen and widen on the logging access roads and skid trails. The problem as stated in No. 3 above, will continue to be with us for generations.

8. WHAT ARE THE ALTERNATIVES:

   a. No action

   b. A lesser degree of proposed action

9. PERSONNEL: National Park Service Resources Management crews, and contract work with California Department of Forestry for correction camp crews.

10. ADMINISTRATION AND LOGISTICS: The project will be directly supervised by the Supervisory Park Ranger in the Branch of Resources Management and Land Use. Cat or loader is needed to fill deep gorges.

Funding	Year in Program Sequence			
	1st	2nd	3rd	4th
Personal Services	44,000	45,500	45,500	45,500
Equipment Operations	2,000	2,500	2,500	2,500
Supplies and Materials	2,000	2,000	2,000	2,000
Grand Total	48,000	50,000	50,000	50,000

Funding	Year in Program Sequence			
	1st	2nd	3rd	4th
Funds available in Park Base	00	00	00	00
Funds Requested from Regional Office	48,000	50,000	50,000	50,000

On Form	Date Submitted
10-237 X	11/74; 1980; Revised 1981
10-238	
10-250	

11. REFERENCES AND CONTACTS:

a. Soil Management Guide for Whiskeytown National Recreation Area, California (Soil Conservation Service)

b. U.S. Forest Service, Robert Powers

c. Bureau of Land Management, Marvin Hoffer

12. DATE OF SUBMISSION: November 14, 1974; Revised 10/81.

NATURAL RESOURCES PROJECT STATEMENT

1. PARK AND REGION: Whiskeytown Unit, Whiskeytown-Shasta-Trinity National Recreation Area, Western Region Office.

2. PROJECT NAME AND NUMBER: Evaluation of methods to control and eradicate yellowjacket wasps in high visitor use areas within Whiskeytown Unit, WHIS-RM-4 (Revision October 1981).

3. STATEMENT OF PROBLEM: In the summer months, large populations of the yellowjacket wasps develop, causing a serious conflict with the park visitor. Natural environmental factors normally maintain a stable population; however, camping and picnicking activities have greatly altered one of these factors--the availability of food. With this inexhaustible supply of food, populations increase to a point causing extreme discomfort to the visitor at recreation sites. Visitor complaints are frequent.

4. WHAT HAS BEEN DONE: In 1968, an eruption of serious conflict occurred between visitor and wasps. Response was received from Entomology Department, University of California at Los Angeles concerning their research on this type of problem. An experimental compound (Mirex) was used under close observation of their Vector Control Specialist, Mr. Charles R. Smith. Control was achieved in only two weeks. In 1969, a buildup occurred in early July; frequent visitor complaints received; control obtained within 16 days. In 1971, a commercial product "Yellowjacket Stopper," Code 9477, USDA Registration No. 218-638, was put on the market by Allied Chemical's Agricultural Division of 40 Rector Street, New York, New York 10006. Each bait unit is about the size of a quart jar and contains a synthetic attractant and a protein base bait with 0.5 percent active insecticide, Mirex: Dodecachlorooctahydro-1, 34-Methano-2H-Cyclobuta

(cd) Pentaiene. The bait is carried to the larval young where the active ingredient is most successful. Control was maintained with the Yellowjacket Stopper at specific bait stations (2) in 1972 and 1973. Although control measures were not used in 1974, populations were again building up to near intolerable proportions.

In 1975 and 1976, Mirex Yellowjacket Stoppers were used following pesticide proposal guidelines and the wasp populations were again reduced to tolerable levels. In 1977, Mirex was withdrawn from use in accordance with EPA standards. From 1978 to 1981, no treatment used; resultant buildup of insects.

5. DESCRIPTION OF WORK TO BE UNDERTAKEN: Literature research survey; perform consultations with State researchers. Test and develop as needed, chemical and/or biological agents for control of the pest yellowjacket.

6. LENGTH OF TIME NEEDED: Research studies to be accomplished during the four month season (June-September) the insect is active and causing problems. Four months per year for three years. After control methods are achieved, annual control will be required.

7. WHAT WILL HAPPEN IF NOT UNDERTAKEN: The wasp population will increase to proportions which will sharply reduce picnicking and camping activities.

8. WHAT ARE THE ALTERNATIVES: No action.

9. PERSONNEL: One research technician for research and control program development. One park technician, GS-026-5.

10. ADMINISTRATION AND LOGISTICS: Regional Chief Scientist, Dr. Fenn. Park Staff - Resource Management.

	Years in Program Sequence				
FUNDING	1st	2nd	3rd	4th	5th
	$5,000	$5,000	$5,000	$1,000	$1,000
Funds Available in Park Base	00	00	00	00	00
Funds Requested	$5,000	$5,000	$5,000	$1,000	$1,000

On Form	Date Submitted
X	9/79

11. REFERENCES AND CONTACTS:

    a. Entomology Department, University of California, Los Angeles

    b. Shasta County Health Department

    c. County Agricultural Advisor, U.S. Department of Agriculture, and University of California.

12. DATE OF SUBMISSION: September 1979; revised October 1981.

NATURAL RESOURCE PROJECT STATEMENT

1. PARK AND REGION: Whiskeytown Unit, Whiskeytown-Shasta-Trinity National Recreation Area, Western Region Office.

2. PROJECT NAME AND NUMBER: Include Bear Proof Refuse and Food Storage Containers in Backcountry Site Development Package and Expand Garbage Collection System, WHIS-RM-5.

3. STATEMENT OF PROBLEM: Public use in the backcountry will increase with the development of facilities such as: Hiking-horseback riding trails, trail campsites, road and trail picnic sites, group campsites, and accessible water. Increased public use will generate a significant amount of refuse. If not disposed of properly and timely, this could add to the food supply of bears and in time adversely affect their overall behavioral patterns. That is, the bear could become dependent on garbage left by the visiting public thereby causing incidents of man/bear conflicts.

4. WHAT HAS BEEN DONE: Nothing has been done because the factors which could cause the most interaction between public recreation and bear activities has not existed.

5. DESCRIPTION OF WORK TO BE UNDERTAKEN: The activities of this project should be correlated with the design, development, and construction plans of backcountry recreation facilities. That is, bear proof containers (food storage and/or garbage) should be placed in, or approximately near backcountry recreation sites and trail heads when these facilities are developed. Concepts of these facilities are described in the master coordinating plan. The garbage collection system will be expanded to include the additional containers as these sites are completed.

6. LENGTH OF TIME NEEDED: Developing the backcountry facilities could be completed in five years (non-recurring). Collecting the refuse would be a recurring activity. This workload would be generated by, and run parallel to visitor use. The winter rains will negate this use during the period December through March.

7. WHAT WOULD HAPPEN IF NOT UNDERTAKEN: The coordinating master plan outlines extensive backcountry use development. As stated earlier, this will intensify public use and generate an additional garbage load. Bears will be attracted to the recreation sites or other areas where garbage is stashed. Without bear proof refuse--and where appropriate, food storage containers--plus a timely collection system, the problem as stated in Item #3 above, would develop.

8. WHAT ARE THE ALTERNATIVES:

   a. Do nothing.

   b. A drastic reduction in the bear population through public hunting.

9. PERSONNEL:

   Site plans and specifications: Park Staff; backcountry management plan construction and supervision: Park Staff

   Refuse collection: Park Staff

   1 Caretaker: June through September, 4 days per week - April/May and October/November, 1 day per week.

10. ADMINISTRATION AND LOGISTICS: Include bear proof facilities in development plans and supervise on-site construction of containers. Schedules for refuse collection shall be governed by visitor use. Collection shall be performed by the Maintenance Division. Information for reviewing the schedule shall be received from inspections by Maintenance and Visitor Activities & Resource Management personnel. Incident reports shall be

made on Form 10-343 for constant evaluation of the program. Direct supervision will be given by the Maintenance Division. One vehicle (pick up) will be needed from June through September.

	Years in Program Sequence				
Funding	1st	2nd	3rd	4th	5th
Planning (advance & project)(P)*	P				
Construction & Supervision (C)*		C	C	C	C
Personal Services			3,000	4,500	4,500
Vehicle Rental			300	400	400
Off-Site Removal (contract)			200	300	300
Supplies			500	500	500
GRAND TOTAL	P	C	C+4,000	C+5,700	C+5,700
Funds Available from					
Park Base	0	0	00	00	00
Funds Requested from					
Regional Office	P	C	C+4,000	C+5,700	C+5,700

*That portion of backcountry site development costs for bear proofing containers (refuse and/or food storage)

On Form	Date Submitted
10-237	
10-238	
10-250	

11. REFERENCES AND CONTACTS:

Whiskeytown General Management Plan

Public Law 89-336

12. DATE OF SUBMISSION: 1975; Revised October 1981

NATURAL RESOURCE PROJECT STATEMENT

1. PARK AND REGION: Whiskeytown Unit, Whiskeytown-Shasta-Trinity National Recreation Area, Western Region Office.

2. PROJECT NAME AND NUMBER: Fire Management, WHIS-RM-6.
Fire Management Plan and Prescribed Burning Research Plan, WHIS-RM-6.

3. STATEMENT OF THE PROBLEM: Fire exclusion, consisting of a program of total suppression, has been management policy for the past 80 years, and has created a series of environmental problems related to vegetation systems and wildlife. Vegetation systems evolved and adapted in an environment where fires occurred with seasonal regularity. Fires, therefore, are one part of a complex, interacting group of climatic, geographic and edaphic factors responsible for the development, composition, modification and perpetuation of the vegetation types present in the Whiskeytown Unit. Exclusion of fire has resulted in changes to the vegetative resources of the area including the alteration of fire related plant succession, changes in plant community structure and composition, reduction in plant diversity, increases in fuel accummulations, and an overall modification of fire related processes which influence the Unit's ecosystems.

Wildlife, which depend directly or indirectly on vegetation, has been affected by the absence of fire. As plant diversity declines, in the absence of fire for example, the diversity of wildlife also decreases. The absence of fire may be favorable to many animal species, such as rodents and ground nesting birds, but it is adverse to others, such as deer, bear, and those species that depend upon habitat requirements found in seral communities. The overall impacts to vegetation and wildlife created by the prolonged absence of fire are numerous and complex. However, it can

be stated that the exclusion of fire in ecosystems historically modified and shaped by fire certainly affects every aspect of those ecosystems.

4. WHAT HAS BEEN DONE: The first draft of the fire plan was written then sent to the Regional Office for review in October 1979. Based on park staff working on a second draft plan, approval was obtained from the Regional Office to conduct five (5) research prescribed burns. Two have been completed and evaluations are being made. Public information activities were started in 1980. Meetings with State and Federal agencies concerning prescribed fire have been conducted, including smoke management and control or prescribed fires.

5. DESCRIPTION OF WORK TO BE UNDERTAKEN: There are two aspects of the work to be undertaken. One aspect is completion of the fire management plan that will entail fire ecology and history, prescribed fire, and management actions to implement the plan. The other aspect is continuing research prescribed burns while finishing the plan in order to refine prescriptions, evaluate fire effects, and reduce hazardous fuels.

Specific projects that will be completed for writing the plan are:

a. Investigate fire history and ecology for the area.
b. Identify and map heavy fuel accumulations that are characterized by high rates of fire spread, energy release, and resistance to control.
c. Identify and map all fuel models using the 1978 National Fire Danger Rating System.
d. Divide Whiskeytown Unit into fire management units designated as natural fire units, prescribed burn units, and fire control (exclusion

units. Each unit will be delineated by natural and/or existing man-made boundaries capable of limiting fire spread.

Findings from research prescribed burns, and other burns carried out as the program evolves will be incorporated in annual updates of the plan. Research burns will be specifically used to:

a. Refine prescriptions by burning within a range of weather and fuel conditions in the various vegetation types. Priority attention will be given to chaparral.

b. Assess fire effects on vegetation and wildlife.

c. Monitor fire behavior during specific fuel, weather, and topographic conditions.

d. Develop a long range guideline that details the rotation period for returning fire, optimum burning periods, means of obtaining adequate prescription for burning, and methods to monitor burns.

e. Immediately reduce fuel situations hazardous to people, natural resources, and structures.

Background information will be gathered from literature and by consulting others regarding fire history, ecology of plant and animal communities, prescriptions, and fire effects releyant to Whiskeytown environs. Agreements will be made with State and Federal fire management agencies for cooperation during burns.

6. LENGTH OF TIME NEEDED: Two years

7. WHAT WILL HAPPEN IF THE PROJECT IS NOT UNDERTAKEN: Fuel accummulations will reach concentrations that could result in very hot fires which are difficult if not impossible to control. Natural fire/prescribed burning will be excluded from the area's ecosystems. Changes in wildlife habitat

and populations will continue to occur as the vegetation upon which they depend is altered. Prescribed fires may be conducted without knowledge of the most effective methodology, thereby increasing potential for detrimental results. Important alternatives involving procedure and recovery may be overlooked due to lack of research and consultation.

8. WHAT ARE THE ALTERNATIVES:

   a. Continue the present action of total fire suppression and ignore fire as an integral factor in Whiskeytown ecosystems.

   b. Develop a fire program without a research prescribed burn.

9. PERSONNEL:

   Park staff, Regional personnel, and university personnel.

10. ADMINISTRATION AND LOGISTICS:

	Year in Program Sequence				
FUNDING	1st	2nd	3rd	4th	5th
Personal Services	13,000	3,000			
Other than Personal Services	7,000	2,000			
GRAND TOTAL	20,000	5,000			
Funds Available in Park Base	00	00			
Funds Requested from Region	20,000	5,000			

On Form	Date Submitted
10-237	1980

11. REFERENCE AND CONTACTS: Regional Office, Plant/Fire Ecologist K. Davis.

12. DATE OF SUBMISSION: 1981 Revision

NATURAL RESOURCES PROJECT STATEMENT

1. PARK AND REGION: Whiskeytown Unit, Whiskeytown-Shasta-Trinity National Recreation Area, WRO.

2. PROJECT AND NUMBER: Endangered species management WHIS-RM-7

3. STATEMENT OF PROBLEM: The population status and distribution of endangered species found in the area are incomplete. Management actions designed to assist in the perpetuation of endangered or threatened species will be difficult without research information. Critical habitat necessary for the Bald Eagle has not been identified and mapped.

4. WHAT HAS BEEN DONE: The only endangered species identified in the area is the Bald Eagle. The Whiskeytown Unit has participated in the midwinter Bald Eagle survey for the past three years. Nesting sites have been located and mapped.

5. DESCRIPTION OF WORK TO BE UNDERTAKEN: Endangered or threatened species checklists will be updated periodically. Having recognized endangered or threatened species, park management will adopt protective and cautionary measures to prevent the inadvertent loss of those species and provide for their perpetuation. Management action relative to endangered species will also include discouraging public access to nesting sites, prohibiting destructive scientific collection, and insuring that other park management or visitor activities will not have adverse impacts on endangered species or any other species recognized as deserving special management attention.

6. LENGTH OF TIME NEEDED: Continuing.

7. WHAT WILL HAPPEN IF NOT UNDERTAKEN: Management of endangered species will be difficult without sufficient information concerning the status

of those species. Endangered or threatened species could be lost or destroyed.

8. WHAT ARE THE ALTERNATIVES: In accordance with the Endangered Species Preservation Act of 1973, there are no alternatives.

9. PERSONNEL: Resource Management staff and University personnel.

10. ADMINISTRATION AND LOGISTICS:

	Year in Program Sequence				
FUNDING	1st	2nd	3rd	4th	5th
Personal services	1,000	1,000	1,000	1,000	1,000
Other than personal services	00	00	00	00	00
GRAND TOTAL	1,000	1,000	1,000	1,000	1,000
Funds available in Park Base	00	00	00	00	00
Funds requested from					
Regional Office	1,000	1,000	1,000	1,000	1,000

On Form Date Submitted

11. REFERENCES AND CONTACTS:

a. California Department of Fish & Game

b. Bureau of Sport Fisheries & Wildlife

c. Huston, D.B., 1971 Ecosystems of National Parks. Science 192:648.

d. Threatened Wildlife of the United States, 1973 Edition USDI

e. Endangered Species Preservation Act of 1973

12. DATE OF SUBMISSION: October 31, 1981

NATURAL RESOURCES PROJECT STATEMENT

1. PARK AND REGION: Whiskeytown Unit of the Whiskeytown-Shasta-Trinity National Recreation Area, Western Region Office.

2. PROJECT NAME AND NUMBER: Monitor and Assess Air Quality, WHIS-RM-8.

3. STATEMENT OF PROBLEM: Air quality related values have been defined in the April 10, 1978 Federal Register as ". . . all those values possessed by an area except those that are not affected by changes in air quality and include all those assets of an area whose vitality, significance, or integrity is dependent in some way upon the air environment. These values include visibility and those scenic, cultural, biological and recreational resources of an area that are affected by air quality."

   The Whiskeytown Unit is designated as Class II area. The present air quality and changes that are taking place are unknown. Air quality at Whiskeytown must be monitored to stay within EPA guidelines and for future planning.

4. WHAT HAS BEEN DONE: Air quality monitoring for the upper end of the Sacramento Valley is accomplished by the Shasta County Air Pollution Control Board, Redding, CA., with stations north, south and east of Redding. No recording stations are located west of Redding or in the Whiskeytown vicinity.

5. DESCRIPTION OF WORK TO BE UNDERTAKEN: In cooperation with EPA and state agencies, air quality monitoring equipment should be utilized at Whiskeytown because of topography, park visitation populations and the number of vehicles. Air quality monitoring significance will be of different values than in the lower valley portion of the Sacramento

River drainage. Pollutants to be monitored will be agreed upon during cooperation efforts with the state to EPA. Assistance from the WRO is requested in setting up this plan.

6. LENGTH OF TIME: Continuing

7. WHAT WILL HAPPEN IF NOT UNDERTAKEN: Air quality standards may be exceeded with a resultant decrease in visitor enjoyment of recreation opportunities and a possible increase in respiratory health hazards.

8. WHAT ARE THE ALTERNATIVES:

   a. No action to monitor air quality

   b. Monitor air quality from other stations outside the recreation area.

9. PERSONNEL: Two GS-5 Park Technicians, Whiskeytown

10. ADMINISTRATION AND LOGISTICS: Installation and instruction on monitoring equipment will be done by the Technicians from EPA or state or combination of the two agencies, two Park Technicians will be instructed in recording, and checking the equipment and will carry out the function of air quality monitoring.

	Years in Program Sequence				
Funding	1st	2nd	3rd	4th	5th
Personal Services	1,000	1,000	1,000	1,000	1,000
Other than Personal Services	10,000	5,000	5,000	5,000	5,000
Grand Total	11,000	6,000	6,000	6,000	6,000
Funds Available in Park Base	None	None	None	None	None
Funds Requested from Region	11,000	6,000	6,000	6,000	6,000

11. DATE OF SUBMISSION: October 1981

NATURAL RESOURCES PROJECT STATEMENT

1. PARK AND REGION: Whiskeytown Unit of the Whiskeytown-Shasta-Trinity National Recreation Area, Western Region Office.

2. PROJECT NAME AND NUMBER: Determine Methods to Restore Vegetative Cover WHIS-N-1 (Rev. 10/81).

3. STATEMENT OF PROBLEM: The dense underbrush of manzanita, toyon and chamise has become so prolific that the typical conifer and deciduous tree cover are inhibited in growth and spread. Native plants are altered from their natural composition. Also, a serious fire danger condition has developed throughout the area. Fire has been excluded from the ecosystem which is highly dependent on fire for normal specie composition and propagation. The reservoir water quality is threatened by potential disastrous wildfire causing subsequent erosion and siltation.

The drainages to the east and north of the lake consist primarily of manzanita and chamise with some interspersed oak and pines (digger and knobcone). According to reports of long-time residents, fire exclusion and commercial logging smelter fumes from the Iron Mountain Mine may have contributed significantly to the present brush type.

Logging has been the primary alternating factor on the south and west side of the lake. Stands of mixed conifers have been high graded resulting in an increase of understory shrubs, mostly scrub oak and manzanita.

Natural reproduction of trees has and is taking place in some areas; however, the competition from the present ground cover has restricted

growth potential of a more diverse forest cover which would increase the quality of the visitors' experience and be more nearly natural. The present brush type restricts accessibility of the visitor with a result of low hunter success and reduced wildlife observations. Restoring the natural vegetative type should also increase the upland game populations.

4. WHAT HAS BEEN DONE: The history of this area indicates an overharvest of timber and the possibility of noxious fumes from copper smelters have created this situation. Insect infestations have also played a minor role in the loss of timber. These factors have led to underbrush growing profusely on fragile soils. Fires have been suppressed effectively in this area for the past eighty years. These have changed the fuel situation to an unnatural state for fire behavior and suppression capabilities. Wildlife habitat requirements are diminishing by the continued exclusion of fires resulting in decadent, extremely flammable brush and actual loss of wildlife habitat. These dense brush areas threaten the visitors' safety and enjoyment of the area.

Very little has been done to manipulate the habitat for wildlife. The only known project aimed at improving deer range was accomplished by California Department of Corrections inmate crews in 1961-64. The work involved stripping brush from a hillside of 100-150 acres and allowing natural revegetation to occur. The object was to provide more succulent young growth with easier accessibility to browsing by wildlife. Another project which was conducted by the Crystal Creek Conservation Camp, although accomplished for another reason, did provide an improved habitat for deer. The project involved the creation of fuel breaks

which extended approximately 50-100 feet on either side of county roads within the area boundaries. The removal of understory vegetation and the trimming of trees to a height of approximately eight feet encouraged the growth of ceanothus species which are, in this area, a preferred deer forage plant.

A fire management plan is being prepared. Small research prescribed burns will be accomplished to develop prescriptions to be used on management fires.

5. DESCRIPTION OF WORK TO BE UNDERTAKEN: Establish test plots, collect and evaluate data to determine feasible methods to use in restoring the vegetative site conditions in the area, especially in the brush types. Fire and/or mechanical methods will be utilized and compared. The history of fire and its relationship to the area's ecology will also be incorporated into the study. This will be followed with a vegetative/habitat restoration plan and subsequent implementation of that plan which will include updating vegetation and fire history maps and aerial and infrared photography.

6. LENGTH OF TIME NEEDED: It is anticipated that four years will be needed to collect sufficient data. An additional year will be needed for evaluation and formulation of the action plan.

7. WHAT WILL HAPPEN IF NOT UNDERTAKEN: The time period for natural reproduction and unnatural plant composition would be greatly prolonged. The area would retain its present high fire danger fuel. Accessibility for wildlife would remain restrictive.

8. WHAT ARE THE ALTERNATIVES: No action.

Vegetation conditions will continue to deteriorate.

Fire conflagration conditions continue to exist.

9. PERSONNEL: Contract

10. ADMINISTRATION AND LOGISTICS: Project will be supervised by the Division of Visitor Activities and Natural Resources Management.

	Year in Program Sequence				
FUNDING	1st	2nd	3rd	4th	5th
Personal Services	10,000	10,000	10,000	10,000	10,000
Other than Personal Services	5,000	5,000	5,000	5,000	5,000
GRAND TOTAL	15,000	15,000	15,000	15,000	15,000
Funds Requested from Regional Office	15,000	15,000	15,000	15,000	15,000

On Form	Date Submitted
10-237	
10-238	
10-250	

11. REFERENCES AND CONTACTS:

a. California Department of Forestry

b. California Department of Fish and Game

c. U.S. Soil Conservation Service

d. U.S. Forest Service, Shasta Trinity National Forest

e. U.S. Bureau of Land Management

12. DATE OF SUBMISSION: 1975 (Rev. 1981)

NATURAL RESOURCES PROJECT STATEMENT

1. PARK AND REGION: Whiskeytown Unit of the Whiskeytown-Shasta-Trinity National Recreation Area, Western Region Office.

2. PROJECT NAME AND NUMBER: Determine Biological and Sociological Carrying Capacity in the Whiskeytown National Recreation Unit, WHIS-N-2 (Rev. 10/81).

3. STATEMENT OF PROBLEM: The impact of man on aquatic and backcountry resources is largely unknown. However, instances have been documented in at least isolated locations for the following problems: bacterial pollution in swim beach areas, trampling of vegetation, accelerated erosion, regattas, and disturbance of wildlife by pets. The extent of such negative impacts is unknown. Long-range changes may be unknowingly taking place. Vehicle use on backcountry roads causes erosion and aerial drift of dust, soil compaction, and destruction to vegetation.

   Excessive numbers of people concentrated in an area can lead to unsatisfactory experiences to a park visitor in the Whiskeytown NRA. Competition for space exists at times among boaters (sailing and power boats), water skiing, swimming, fishing, horseback riding, 4-wheel drive, hiking, etc. The increasing congestion and overuse in the recreation area will require a more equitable distribution and some restriction placed on the visitor. Alternatives must be derived to halt the adverse effects of overuse and restore the ecological balance; that is, the number of persons for which an area can provide recreation while maintaining the conditions that originally made it desirable for that purpose.

4. WHAT HAS BEEN DONE: Very little has been done thus far. Backcountry camping is allowed with a permit beyond a one-mile radius of the lake.

This permit system, started in 1973, will provide information regarding: visitor flow, number of persons per site, site preferences (geographic and environmental), repetition of site use and total backcountry overnight use. No data has been accummulated for backcountry day use.

5. DESCRIPTION OF WORK TO BE UNDERTAKEN:

   a. Describes the overall concept for the preservation and use of the area, including the role and degree of development; and

   b. Identifies and describes ecological and developmental limitations of visitor use which provide the framework for park capacity.

6. LENGTH OF TIME NEEDED: Two years

7. WHAT WILL HAPPEN IF THE PROJECT IS NOT UNDERTAKEN:

   a. Continued deterioration of the resources.

   b. Inadequate management will continue to be applied resulting in poor visitor experiences.

8. WHAT ARE THE ALTERNATIVES:

   a. No action.

   b. Limited or partial studies.

9. PERSONNEL WHO WILL ACCOMPLISH THE PROJECT:

   a. Contract with university research through the Coop. Studies Unit Leader, U.C. Davis.

10. ADMINISTRATION AND LOGISTICS: Dr. Fenn, WRO

	Year in Program Sequence	
FUNDING	1st	2nd
	$20,000	$20,000

11. REFERENCE AND CONTACTS:

a. Colorado River Carrying Capacity Study, GRCA

b. The Management of Human Components in Yosemite N.P. Ecosystem.

c. Analysis of Sociological Carrying Capacity for the Yosemite N.P. Backcountry - Final Report.

d. Lake Mead Carrying Capacity Studies

12. DATE OF SUBMISSION: November 1974 (Rev. 10/81)

NATURAL RESOURCES PROJECT STATEMENT

1. PARK AND REGION: Whiskeytown Unit of the Whiskeytown-Shasta-Trinity National Recreation Area, Western Region Office.

2. PROJECT NAME AND NUMBER: Limnology of Whiskeytown Lake, Emphasizing Fisheries Biology, WHIS-N-3.

3. STATEMENT OF PROBLEM: The staff at Whiskeytown lacks baseline limnological information to properly manage aquatic resources of Whiskeytown Lake. For example, Whiskeytown and California Department of Fish and Game carry out a fish stocking program in Whiskeytown Lake with limited, and apparently insufficient knowledge about biological, chemical and physical conditions in the lake. Studies and subsequent recommendations will provide the Unit staff, in cooperation with California Department of Fish and Game, with improved ability to manage the lake resources.

4. WHAT HAS BEEN DONE: California Department of Fish and Game has studied fisheries before and after lake impoundment. Bass habitat has been improved in some areas with moderate success (Ref: Park Report N-1423).

   Limited fish quality monitoring has been performed on the lake. California Department of Fish and Game has conducted an extensive fish tagging program on planted fish in Whiskeytown Lake. Fish and Game has also conducted an experiment releasing the thread-fin shad as a food source for bass and trout in Whiskeytown Lake.

5. DESCRIPTION OF WORK TO BE UNDERTAKEN:

   a. Literature search on completed, annotated bibliographic reports on

Whiskeytown Lake aquatic resources.

b. Evaluation of fisheries in Whiskeytown Lake: spawning - natural recruitment, stocking, fishing effort/success. This will involve creel census. Identifying spawning beds and streams.

Spawning water levels regime related to successful spawning, fish diseases, growth rates, life history and undesirable fish introduction and control.

c. Recommendations for aquatic ecosystem management and additional studies, if needed.

6. LENGTH OF TIME NEEDED: Three years.

7. WHAT WILL HAPPEN IF THE PROJECT IS NOT UNDERTAKEN: Inadequate management will continue to be applied. This costs time and money, often with failure to manage. Creditability of NPS will remain low as management of aquatic resources and fisheries. The fishery will not likely improve without research and may even deteriorate with an increase in undesirable fish population.

8. WHAT ARE THE ALTERNATIVES:

a. No action.

b. Limited or partial study.

c. Rely on State of California studies when available.

9. WHO WILL ACCOMPLISH THE PROJECT:

a. Contract with University and Fish and Wildlife Service.

b. California Department of Fish and Game consultation and possible involvement.

c. Local National Park Service Staff.

10. ADMINISTRATION AND LOGISTICS: Dr. Fenn, Chief Scientist, WRO

	Year in Program Sequence				
FUNDING	1st	2nd	3rd	4th	5th
	20,000	20,000	20,000	0	0

11. REFERENCE AND CONTACTS:

a. California Department of Fish and Game, Redding, California.

b. Department of the Interior, Water and Power Resources Service.

12. DATE OF SUBMISSION: October 1981

NATURAL RESOURCES PROJECT STATEMENT

1. PARK AND REGION: Whiskeytown Unit of the Whiskeytown-Shasta-Trinity National Recreation Area, Western Region Office.

2. PROJECT NAME AND NUMBER: Evaluation of Sensitive Plant Species and Critical Habitat, WHIS-N-4.

3. STATEMENT OF PROBLEM: Some sensitive species (i.e., threatened, endangered) are known to occur in the Whiskeytown Unit; examples are: McNabb cypress, bald eagle and squaw carpet (Ceanothus prostratus). However, surveys for sensitive plant and animal species have not been conducted in the recreation area, nor has potential critical habitat been identified for known sensitive species. Critical habitat is also unknown for these species. Without proper management, the National Park Service may unknowingly have detrimental effects upon these populations of sensitive species.

4. WHAT HAS BEEN DONE: Nothing

5. DESCRIPTION OF WORK TO BE UNDERTAKEN: Both plant and animal taxonomists and ecologists will be contacted to survey the NRA and to prepare reports. These documents will include maps of the presence and abundance of sensitive species, with recommendations for proposed critical habitat.

6. LENGTH OF TIME NEEDED: Two years

7. WHAT WILL HAPPEN IF NOT UNDERTAKEN: Sensitive species may be inadvertently reduced or even extirpated from the NRA. Possible violations may occur (Ref: Endangered Species Act of 1973).

8. WHAT ARE THE ALTERNATIVES:

   a. Do nothing

   b. Conduct only partial surveys

   c. Conduct surveys only where construction or other human use is proposed

9. PERSONNEL: University contract with possible assistance from Fish and Widdlife Service, Endangered Species Office, Sacramento, CA., and Park Staff and Chief Scientist, WRO.

10. ADMINISTRATION AND LOGISTICS:

	Years in Program Sequence				
FUNDING	1st	2nd	3rd	4th	5th
Personal Services					
Other than Personal Services	5,000	5,000	00	00	00
GRAND TOTAL	5,000	5,000	00	00	00
Funds Available in Park Base	00	00	00	00	00
Funds Requested from Region Office	5,000	5,000	00	00	00

11. REFERENCE AND CONTACTS: Soils and vegetation of the French Gulch Quadrangle, Trinity and Shasta Counties, California, Pacific Southwest Forest and Range Experiment Station, U.S.F.S. Resource Bulletin PSW-12/1973, James L. Mallory, Wilmer L. Colwell, Jr., W. Robert Powell.

12. DATE OF SUBMISSION: October 1981

NATURAL RESOURCES PROJECT STATEMENT

1. PARK AND REGION: Whiskeytown Unit of the Whiskeytown-Shasta-Trinity National Recreation Area, Western Region Office.

2. PROJECT NAME AND NUMBER: Ecological Study of Vertebrates, WHIS-N-5.

3. STATEMENT OF PROBLEM: Information concerning the number and kinds of vertebrate species which occur in the Unit is insufficient for interpretation and management. Check lists of the area's mammals, birds and reptiles are reasonably accurate; however, a complete inventory of vertebrates has never been compiled for the Whiskeytown Unit.

4. WHAT HAS BEEN DONE: Check lists of the most prominent mammals, birds, and reptiles have been compiled.

5. DESCRIPTION OF WORK TO BE UNDERTAKEN: An intensive field survey of the vertebrate species which occur in the Whiskeytown Unit, covering all the recreation area's habitats, needs to be conducted. The survey should provide the following:
   a. An inventory of vertebrate species.
   b. Check lists of all major groups of vertebrates.
   c. Habitat preference for identified species given in terms of major biotic community.
   d. Estimation of relative abundance with special emphasis given to threatened or endangered species.
   e. Notations of seasonal fluctuations on number and species.
   f. Review of the autecology of threatened and endangered species.
   g. Some comments or recommendations regarding management of endangered or threatened species.

6. LENGTH OF TIME NEEDED: Two years

7. WHAT WILL HAPPEN IF PROJECT IS NOT UNDERTAKEN: The resources management and interpretive programs at Whiskeytown will have insufficient information to manage and interpret yertebrates species in the recreation area.

8. WHAT ARE THE ALTERNATIVES:

   a. No action

   b. Rely on interested individuals to gradually provide the information in conjunction with university research projects.

9. PERSONNEL: Park Staff and University Personnel

10. ADMINISTRATION AND LOGISTICS:

	Year in Program Sequence				
FUNDING	1st	2nd	3rd	4th	5th
Personal Services					
Other than Personal Services	10,000	10,000			
GRAND TOTAL	10,000	10,000			
Funds Available in Park Base	00	00			
Funds Requested from Region Office	10,000	10,000			

11. REFERENCES AND CONTRACTS: Dr. Charles Van Riper, Cooperative Studies Unit, University of California, Davis, California.

NATURAL RESOURCES PROJECT STATEMENT

1. PARK AND REGION: Whiskeytown Unit of the Whiskeytown-Shasta-Trinity National Recreation Area, Western Region Office.

2. PROJECT NAME AND NUMBER: Spring Development, WHIS-W-1 (Rev. 10/81).

3. STATEMENT OF PROBLEM: From May through October, the watershed receives relatively little precipitation. All but five of the streams south of the lake dry up during this six month period. Although there are numerous seeps, they provide little water for wildlife and none for backcountry recreational use during the highest potential backcountry use period. The General Management Plan provides for a network of hiking and horseback riding trails. It is along these trails that rest and overnight stops will be provided. The availability of water now is inadequate for the planned action of anticipated use for visitors, horses and wildlife.

4. WHAT HAS BEEN DONE: Nothing

5. DESCRIPTION OF WORK TO BE UNDERTAKEN: Activity of this project will be correlated with trail concepts of the draft master plan. Sites of proposed work will be selected accordingly; prospective sites include McGuire trailside rest, South Fork campground, Meadows campground, Crystal Creek, Boulder Creek, Monarch Pass and Mill Creek campground. Those along existing trails which become part of the planned trail network will be accomplished first. Other site locations, presently with no access, will be accomplished along with trail construction.

The work will include: locating favorable sites with respect to trail and spring or seep; increase spring flow by digging out soil, rock and

vegetative material; installing perforated tile, pipe, sand and rock. Collecting basins for horses and wildlife may be needed in some cases. The Division of Water Resources, WRO, will be requested to evaluate water sources, and in some cases assist in locating suitable development sites.

6. LENGTH OF TIME NEEDED: This project can be accomplished by a crew of three in six months. Natural siltation, erosion and wildlife activity can restrict a site's maximum potential; so, annual maintenance will be needed.

7. WHAT WILL HAPPEN IF NOT UNDERTAKEN: If nothing is done:
   a. Hiking activity will be restricted to those areas where water is presently available.
   b. Many of the proposed longer trails through dry country would receive minimal use, if any.
   c. The range in wildlife activity would remain much as it is now, without the benefit of available water in the drier areas; hence, lower wildlife sightings.

8. WHAT ARE THE ALTERNATIVES: Do nothing

9. PERSONNEL: Three Park Technicians, GS-5.

10. ADMINISTRATION AND LOGISTICS: The project will be directly supervised by the Supervisory Park Ranger in the Branch of Resources Management and Land Use.

	Year in Program Sequence				
FUNDING	1st	2nd	3rd	4th	5th
Personal Services	22,000	5,000	5,000	5,000	5,000
Materials and Supplies	11,000	500	500	500	500
GRAND TOTAL	33,000	5,500	5,500	5,500	5,500

On Form	Date Submitted
10-237X	3/74
10-238	/78
10-250X	Pkg. 128 (2/72)
	Pkg. 130, 131, 132, 133, 134, 136, 138, (8/69)

11. REFERENCES AND CONTACTS:

a. California Department of Fish and Game

b. California Department of Forestry

c. Water Resources Division, WRO

12. DATE OF SUBMISSION: November 14, 1974 (Rev. 10/81).

NATURAL RESOURCES PROJECT STATEMENT

1. PARK AND REGION: Whiskeytown Unit of the Whiskeytown-Shasta-Trinity National Recreation Area, Western Region Office.

2. PROJECT NAME AND NUMBER: Monitor and Assess Water Quality, Water Resources Management Plan, Phase One, W-2.

3. STATEMENT OF PROBLEM: In compliance with Public Law 92-500 (Federal Water Pollution Control Act) and as amended by Public Law 95-217 (Clean Water Act of 1977) and as furthered by the Service Memorandum of Understanding with Environmental Protection Agency (EPA), each area must develop a Park Water Plan.

4. WHAT HAS BEEN DONE: No comprehensive water quality management plan has been developed for the area.

5. DESCRIPTION OF WORK TO BE UNDERTAKEN:

   a. A historical report on management of water resources in the park.

   b. Classification of all surface waters by present and proposed uses.

   c. An analysis of the present status of park waters including:

      (1) Identification of water quality required to support specified uses, and, where appropriate, to comply with or assist in establishing state water quality standards.

      (2) Relationship of water quality to any threatened, known, rare or endangered species indigenous to the park and the relationship of water quality to the protection of all natural resources.

      (3) A bibliography of available information concerning the existing quality of park waters.

d. A description of proposed actions relating to management of park waters.

e. A detailed plan for monitoring the quality of park waters that will reveal existing water quality and be able to detect any significant changes.

f. Future coordination/cooperation with EPA and the State is required to ascertain established water standards.

g. Delineate flood area hazards as defined in E.O. 11988 for flood plain management. Include in Water Resources Management Plan.

6. LENGTH OF TIME NEEDED: Three years

7. WHAT WILL HAPPEN IF PROJECT IS NOT UNDERTAKEN: Service noncompliance with the above federal laws.

8. WHAT ARE THE ALTERNATIVES: None

9. PERSONNEL: Chief, Division of Water Resources, Western Region, Gerard S. Witucki; U.S. Geological Survey; Park Staff; Regional assistance for development and initiation of contract with U.S. Geological Survey. Future monitoring will be accomplished by area staff.

10. ADMINISTRATION AND LOGISTICS:

	Year in Program Sequence				
FUNDING	1st	2nd	3rd	4th	5th
Personal Services	00	00	00	00	00
Other than Personal Services	10,000	10,000	10,000	10,000	10,000
GRAND TOTAL	10,000	10,000	10,000	10,000	10,000
Funds Available in Park Base	00	00	00	00	00
Funds Requested from Region Office	10,000	10,000	10,000	10,000	10,000

On Form	Date Submitted
10-237	
10-238	
10-250	

11. REFERENCES AND CONTRACTS:

a. Memorandum of Understanding Between the Environment Protection Agency and the Department of the Interior.

b. Public Law 92-500 (Federal Water Pollution Control Act).

c. Public Law 95-217 (Clean Water Act 1977)

d. Evaluation of Water Quality Impacts from Disposal of Dredged or Fill Material, U.S. Army Engineer District, Sacramento, November 1978.

e. Water Resources Division, WRO

12. DATE OF SUBMISSION: October 1981

NATURAL RESOURCES PROJECT PROGRAMMING SHEET

Revised: October 1981

WHISKEYTOWN NATIONAL RECREATION AREA

NPS Costs Expressed in $1000

a- ty	Reference No.	Project Title	1st Year * Base/New	1st Year ** Base/New	2nd Year * Base/New	2nd Year ** Base/New	3rd Year * Base/New	3rd Year ** Base/New	4th Year * Base/New	4th Year ** Base/New	5th Year * Base/New	5th Year ** Base/New
	N-2	Determine Biological & Sociological Carrying Capacity in WHIS NRA (Revision 10-81 N-2)	0	20	0	20	0	20	0	0	0	0
	N-1	Determine Methods to Restore Vegetation Cover (Revision 10-81 N-1)	0	15.	0	15.	0	15.	0	15.	0	15.
	RM-3	Soil Stabilization	0	48.	0	50.	0	50.	0	50.	0	50.
	N-3	Limnology of WHIS Lake Emphasizing Fishery Biology	0	20.	0	20.	0	20.	0	0	0	0
	RM-8	Monitor and Assess Air Quality	0	11.	0	6.	0	6.	0	6.	0	6.
	N-4	Evaluation of Sensitive Plant Species and Their Critical Habitat	0	0	0	5.0	0	5.0	0	0	0	0
	W-2	Monitor and Assess Water Quality Park Water Resource Management Plan Phase One	0	10.	0	10.	0	10.	0	10.	0	10.
	RM-5	Bear-Proof Cans and Garbage Collection	0	P	0	C	0	C+4.0	0	C+5.7	0	C+5.7
	W-1	Spring Development: Fire Control/ Wildlife Habitat	0	33.	0	5.5	0	5.5	0	5.5	0	5.
	RM-6	Fire Management Plan & Prescribed Burning Research	0	20.	0	5.	0	0	0	0	0	0
	N-5	Ecological Study of Vertebrates	0	10.	0	10.	0	0	0	0	0	0
	RM-7	Endangered Species Management	0	1.0	0	1.0	0	1.0	0	1.0	0	1.0
	RM-1	Poison Oak Control	0	1.5	0	1.5	0	1.5	0	1.5	0	1.5
	RM-2	Exotic Plant Control	0	4.0	0.5	0	0.5	0	0.5	0	0.5	0
	RM-4	Yellowjacket Wasp Control	0	5.	0	5.	0	5.	0	1.	0	1.

*Base = Funds Available in Park Base